Perhaps the biggest challenge facing philosophy and social theory in the twenty-first century is how to retain the integrity of the concept of humanity. The concept currently refers to properties that all human beings possess either individually or collectively, but in any case uniquely as members of the same species. According to both social contract theorists like Hobbes, Locke and Rousseau and the classical sociologists Marx, Durkheim and Weber, the full realization of these properties—e.g., language, government, economy, art, science—requires society. We may be each born with the potential for these distinctly human qualities, but we need to be organized in a certain range of ways to manifest them.

One aspect of the history of the social sciences is especially salient here: the secularization of the Christian Salvation project as the Enlightenment and, later, Socialism. The common idea is that no one can be fully human until everyone is fully human. This is usually expressed as an ideal of equality but it could be also expressed as an ideal of liberty: each person must be able to recognize everyone else as equals. The autonomy wished for oneself must be also extended to all others. These sentiments join the Golden Rule to Kant, Hegel and Marx. It also animates the modern ideal of distributive justice, which refuses to accept the incorrigibility of the disparity of wealth and achievement ‘naturally’ found among humans.

As we move into the twenty-first century, how will ‘humanity’ be defined? Are humans defined in terms of where they came from or where they are going—the actual past or the potential future? To define humanity in terms of an unresolved temporal problem has the advantage of highlighting what may turn out to be main ideological polarity of our times. The extremes are epitomized by, on the one hand, the Animal Rights Movement and, on the other, the project of Artificial Intelligence. Interestingly, both poles think of themselves as politically ‘progressive’ and, perhaps even more interestingly, are driven by what each regards as cutting-edge science.
On the one hand, such spin-offs of the Neo-Darwinian Synthesis as sociobiology, evolutionary psychology and behavioral genetics are daily providing evidence for the preponderant overlap between human and other animal natures. According to the principal theorist of animal liberation, Peter Singer, this evidence warrants a redistribution of sentiment across species so that ‘the greatest good for the greatest number’ includes all sentient beings. On the other hand, improvements in prosthetic technologies designed to maintain and enhance human performance—and the public’s growing acceptance of them—suggests that, contrary to the Neo-Darwinists, what we value most in our ‘humanity’ may not be natural at all. Indeed, one of the most articulate representatives of this position, Ray Kurzweil, speaks of ours as an ‘age of spiritual machines’, a phrase meant to suggest that we could design entities that end up superseding us in the qualities we value most.

To be sure, Singer and Kurzweil represent opposite ends of a political spectrum, the center ground of which is still dominated by those—namely, social scientists—concerned primarily with human beings as they are ordinarily understood, i.e., potential voters and consumers. Yet, seen from the long durée of intellectual history, what is remarkable is that the center has held as long as it has. Before the ascendancy of the nation-state as the guarantor of ‘society’ in the wake of the Protestant Reformation, political discourse veered between pagan skeptics who, like Singer, were preoccupied with minimizing physical pain in all earthly creatures and Gnostics who, like Kurzweil, wanted to hasten the end of history so that the Elect can enjoy their richly deserved spiritual reward. The institutional innovations that arose from Christendom—including the Church, the university and later the nation-state and the business firm—historically held the center ground by perpetuating a non-genetic mode of social reproduction that was legitimized by reference to the ultimate ends of the corporate entity. I develop this point in The New Sociological Imagination (Sage 2006).

The weakening of the hold of these entities on social life accounts for both the decline in social science’s epistemological salience and the resurgence of a pre-modern ideological sensibility: the left-right axis now replaced by a renovated version of the orthogonal sensate-idealistic axis, to recall the terms introduced by the first chair of Harvard’s Sociology Department, Pitirim Sorokin. The sensate axis is historically associated with the ‘therapeutic’ strand in Hellenistic philosophy and the Eastern religions, the idea that humans should simply pass the time as painlessly as possible until death provides eternal release for the soul. The idealistic axis corresponds to Gnosticism as a movement familiar from the more zealous strains in Judaism and primitive Christianity but later revived as a source of civil wars during the Protestant Reformation. It called for a
'revolution of the saints' whereby a spiritual vanguard would destroy all earthly institutions in order to hasten The Final Judgment. The history of modern politics testifies to the difficulties in avoiding these extremes, with Freudianism and Marxism their respective exemplars, at least in popular culture.

I said that Singer and Kurzweil do not occupy quite the same social roles in their re-enactment of Sorokin's polarity. The former is not the therapist of classical skepticism and the latter not the firebrand mystagogue—who we might now call a 'terrorist'—of early medieval Gnosticism. A better way of casting their difference is in terms of the chemical element that each takes to bring out the essence of humanity: carbon v. silicon.

The first term of the binary is perhaps easier to grasp. The Neo-Darwinian absorption of *Homo sapiens* into an undifferentiated gene pool reflects the carbon-based origins of all forms of life, which come to be differentiated into species through various compounded historical accidents (a.k.a. natural selection). This fact alone has been sufficient to motivate the range of field and lab studies dedicated to reducing the evidential difference between human and animal qualities, thereby lending increasing intuitive support for Singer's species-egalitarian ethics.

As for the second term of the binary, silicon is the element common to glass and other conductors of light and electricity. These materials have underwritten, on the one hand, the recent revolution in information and communication technologies that have enhanced humanity's interactive potential—or 'interconnectivity'—and, on the other, the increasing acceptance of prosthetic extensions to the lives of individual humans, from implanted silicon chips to plastic surgery. Moreover, silicon's lure reaches into the remote past. I allude here to the historic fascination with optics as the interface science between God and his creatures, starting with Al-Kindi in the ninth century and eventuating in the dominance of visual metaphors for unmediated veridical knowledge in the history of modern philosophy.

As suggested above, excluded from this elemental binary is the artificial person known as 'society', or *universitas*, to call it by its name in Roman law. Here classical social contract theory acquires a salience it has lacked in recent sociological discussions. All versions of the social contract presuppose that individuals come to see it in their own self-interest to combine in ways that force them to exchange one kind of freedom for another, at least putatively more valuable, kind. The maintenance of this contract entails the construction of technological means for organizing, monitoring and, when necessary, disciplining the individuals—the overall result of which is (hopefully) a thriving social organism.

The most natural understanding of this process in terms of our binary is that carbon-based creatures employ silicon-based means to empower
themselves in ways that in the long term become normative standards in terms of which the creatures themselves come to be evaluated and, where possible, improved. Thus, the passage of light through an undistorted lens became the original model for the frictionless medium of thought communicated from God to his creatures. This image was socialized in Jeremy Bentham’s ‘panoptical’ total institutions, as notoriously recounted by Michel Foucault. The final stage occurred in the early twentieth century with the discovery of superconductivity, which permitted the generalized high-speed conveyance of electromagnetic impulses—and hence the information potentially carried in them, as computers routinely do these days.

The ‘logic’ of this historical trajectory is driven by increased efficiency, which, metaphysically speaking, consists in minimizing the matter needed to convey the same form. From that standpoint, the carbon end of the carbon/silicon binary appears ‘conservative’ in its attachment to matter at the expense of form. Here lies the source of much contemporary ‘back to nature’ environmentalism (a.k.a. biodiversity) that defines the summum bonum in terms of enabling the survival of the widest range of carbon-creatures. In contrast, proponents of the ‘silicon’ end of the binary aim to expedite the drive toward efficiency. This more ‘liberal’ attitude toward matter simultaneously suggests a host of superficially unrelated ideological associations: Gnostic spirituality, revolutionary politics, artificial intelligence and, of course, the kind of technological determinism that Marx both admired and feared in capitalism.

I say ‘superficially’ because certain silicon-oriented individuals already embody this curious combination of sensibilities. A notable case is George Gilder, a founder of Seattle’s Discovery Institute, the think-tank most openly dedicated to the promotion of ‘intelligent design theory’, the scientifically updated form of creationism that is challenging Neo-Darwinism for a place in the US high school science textbooks. This is probably the highest profile forum in which the battle between carbon- and silicon-based ideologies is fought today. Gilder, a trained economist began his career writing speeches for the liberal Republican Governor of New York, Nelson Rockefeller, and anathematizing the reactionary politics of Barry Goldwater. He came into his own in the 1980s as the champion of ‘Reaganomics’ and presaging the general trend toward the miniaturization of processes and products, which he called ‘quantum economics’ but nowadays is better known as ‘nanotechnology’. When he is not penning visionary editorials for Wired, the fashionable on-line information technology magazine, Gilder sponsors conferences that bring together the likes of Kurzweil with intelligent design theorists.

This sketch of the political implications of the carbon/silicon divide suggests a couple of points. First, the binary is genuinely ‘orthogonal’ to
the left/right divide in that it drives a wedge into the constituency of both the left and the right. Roughly speaking, the left is now divided between those who see Darwin (carbon) and Marx (silicon) as the beacon of progress, and the right is now divided between those who see the ‘natural’ (carbon) and the ‘artificial’ (silicon) as the primary source of value. The former grounds the split between Greens and Reds, the latter the split between the traditionalists and the libertarians. The second point is that social science, understood as the science of humanity, exists in a space that neither denigrates nor extols efficiency as a value—but seeks an ‘optimal’ (as opposed to a ‘maximal’) level of efficiency in terms of which the most individuals can live the most fulfilling lives. Here I allude to Bentham’s classical definition of welfare as ‘the greatest good for the greatest number’. Only entities satisfying that principle of incorporation are properly counted as ‘social’, the product of which constitutes a universitas. Our concept of humanity began with this idea, and we must somehow return to it in the future.